

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

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PUBLICATION NUMBER : 2000021444
PUBLICATION DATE : 21-01-00

BEST AVAILABLE COPY

APPLICATION DATE : 30-06-98
APPLICATION NUMBER : 10185148

APPLICANT : SHIN KOBE ELECTRIC MACH CO LTD;

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INT.CL. : H01M 10/40 H01M 4/58

TITLE : NONAQUEOUS ELECTROLYTE SECONDARY BATTERY

ABSTRACT : PROBLEM TO BE SOLVED: To prevent capacity of reduction in a secondary battery, and to improve a high temperature service life characteristic and a preserving characteristic by using lithium manganate having a spinel structure as a positive electrode active material, and using an electrolyte containing quinone and the like or a reduced form and the like corresponding to it by a specific quantity as a nonaqueous electrolyte.

SOLUTION: Lithium manganate having a spinel structure is used as a positive electrode active material of a nonaqueous electrolyte secondary battery. Mn in it may be partially substituted with Ti, V, Cr, Fe, Co, W and Cu. In an electrolyte of this secondary battery, lithium salt such as LiClO₄ is dissolved in an organic solvent as the electrolyte. Quinone and the like or its reduced form and the like corresponding to the quinone and the like is set included in it at 0.01 to 0.3 mol/l. Benzoquinone and the like naphthoquinone and the like and anthraquinone and the like are used as this quinone and the like. Also hydroquinone and the like, quinhydrone and the like, 1,4- or 1,2-dioxynaphthalene and the like and anthraquinol and the like are preferably as the reduced form.

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